CLAIMS

1. A method for selecting a channel from a plurality of channels to use for receiving a transmission, each channel having a plurality of subcarriers for receiving symbols, the symbols comprising a plurality of data bits, the method comprising the acts of:

for each of the plurality of channels, performing the acts of:

determining (120) a channel response estimate for each of the plurality of subcarriers;

assigning (122) a subcarrier metric to each subcarrier based on the channel response estimate for that subcarrier;

mapping (124) the subcarrier metric to each of the plurality of data bits;

creating (126, 128) channel response data comprising the metrics assigned to each of the plurality of data bits for each subcarrier;

determining (126, 128) an intermediate channel quality metric (CQM) for each group of N bits of the channel response data by determining which group of N bits corresponds to the weakest corresponding channel response estimate, where N is an integer; and

selecting (128, 130) the intermediate channel quality metric corresponding to the weakest channel response estimate as the overall channel quality metric for the channel; and

selecting (132) the channel having the highest overall channel quality metric for receiving the transmission.

2. The method of claim 1, comprising:

determining (128) an intermediate channel quality metric for a group of N bits of channel response data where a portion of the N bits

are selected from channel response data corresponding to a subcarrier at one end of a frequency range of the channel and a portion of the N bits are selected from channel response data corresponding to a subcarrier at the other end of the frequency range of the channel.

3. The method of claim 1, comprising:
de-interleaving (126) the channel response data.

4. The method of claim 1 wherein the subcarrier metrics are monotonic and correspond to an associated subcarrier channel response estimate.

5. The method of claim 1 wherein the symbols are encoded using a 64-QAM constellation.

6. The method of claim 1 comprising:
decoding the symbols using a Viterbi algorithm.

7. The method of claim 6 wherein N is proportional to the correction power of the Viterbi algorithm.

8. A device that selects a channel from a plurality of channels to use for receiving a transmission, each channel having a plurality of subcarriers for receiving symbols, the symbols comprising a plurality of data bits, the device comprising:

circuitry adapted to determine (120) a channel response estimate for each of the plurality of subcarriers;

circuitry adapted to assign (122) a subcarrier metric to each subcarrier based on the channel response estimate for that subcarrier;

circuitry adapted to map (124) the subcarrier metric to each of the plurality of data bits;

circuitry adapted to create (126, 128) channel response data comprising the metrics assigned to each of the plurality of data bits for each subcarrier;

circuitry adapted to determine (126, 128) an intermediate channel quality metric (CQM) for each group of N bits of the channel response data by determining which group of N bits corresponds to the weakest corresponding channel response estimate, where N is an integer; and

circuitry adapted to select (128, 130) the intermediate channel quality metric corresponding to the weakest channel response estimate as the overall channel quality metric for the channel; and

circuitry adapted to select (132) the channel having the highest overall channel quality metric for receiving the transmission.

9. The device of claim 8, comprising:

circuitry adapted to determine (128) an intermediate channel quality metric for a group of N bits of channel response data where a portion of the N bits are selected from channel response data corresponding to a subcarrier at one end of a frequency range of the channel and a portion of the N bits are selected from channel response data corresponding to a subcarrier at the other end of the frequency range of the channel.

10. The device of claim 8 wherein the subcarrier metrics are monotonic and correspond to an associated subcarrier channel response estimate.

11. The device of claim 8 wherein the symbols are encoded using a 64-QAM constellation.

12. The device of claim 8 comprising:
circuitry adapted to decode the symbols using a Viterbi algorithm.

13. The device of claim 12 wherein N is proportional to the correction power of the Viterbi algorithm.

14. An Orthogonal Frequency Division Multiplexing (OFDM) receiver that selects a channel from a plurality of channels to use for receiving a convolutionally encoded OFDM transmission, each channel having a plurality of subcarriers for receiving symbols, the symbols comprising a plurality of data bits, the OFDM receiver comprising:

circuitry adapted to determine (120) a channel response estimate for each of the plurality of subcarriers;

circuitry adapted to assign (122) a subcarrier metric to each subcarrier based on the channel response estimate for that subcarrier;

circuitry adapted to map (124) the subcarrier metric to each of the plurality of data bits;

circuitry adapted to create (126, 128) channel response data comprising the metrics assigned to each of the plurality of data bits for each subcarrier;

circuitry adapted to determine (126,128) an intermediate channel quality metric (CQM) for each group of N bits of the channel response data by determining which group of N bits corresponds to the weakest corresponding channel response estimate, where N is an integer; and

circuitry adapted to select (126, 130) the intermediate channel quality metric corresponding to the weakest channel response estimate as the overall channel quality metric for the channel; and

circuitry adapted to select (132) the channel having the highest overall channel quality metric for receiving the transmission.

15. The Orthogonal Frequency Division Multiplexing (OFDM) receiver of claim 14, comprising:

circuitry adapted to determine (128) an intermediate channel quality metric for a group of N bits of channel response data where a portion of the N bits are selected from channel response data corresponding to a subcarrier at one end of a frequency range of the channel and a portion of the N bits are selected from channel response data corresponding to a subcarrier at the other end of the frequency range of the channel.

16. The Orthogonal Frequency Division Multiplexing (OFDM) receiver of claim 14, comprising:

circuitry adapted to de-interleave (126) the channel response data.

17. The Orthogonal Frequency Division Multiplexing (OFDM) receiver of claim 14 wherein the subcarrier metrics are monotonic and correspond to an associated subcarrier channel response estimate.

18. The Orthogonal Frequency Division Multiplexing (OFDM) receiver of claim 14 wherein the symbols are encoded using a 64-QAM constellation.

19. The Orthogonal Frequency Division Multiplexing (OFDM) receiver of claim 14 comprising:

circuitry adapted to decode the symbols using a Viterbi algorithm.

20. The Orthogonal Frequency Division Multiplexing (OFDM) receiver of claim 19 wherein N is proportional to the correction power of the Viterbi algorithm.